

Farmer's practices in coffee-based agroforests of "Guinée forestière": Interacting paths over several farmer generations

In Guinée forestière (Guinea) a significant increase in areas under coffee-based agroforests has occurred in the last 30 years. The coffee-based agroforests share village cultivated area with rice cropping systems associated with natural regenerated stands of oil palm. As the equilibrium between these systems is crucial for the economic and ecological sustainability of current cultivation, we need a more refined understanding of coffee agroforest dynamics on field and on farm levels.



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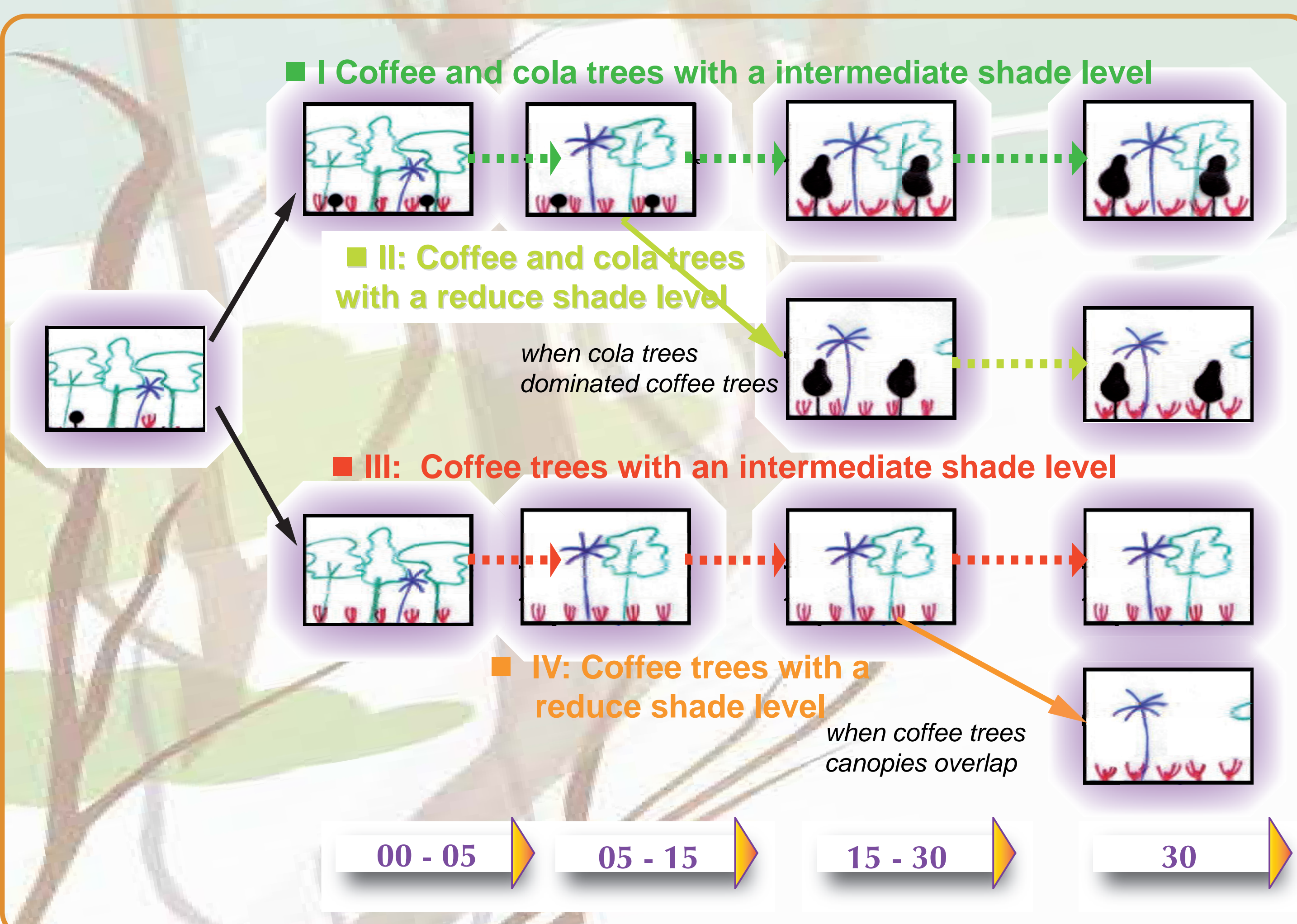
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Study Site & Methods

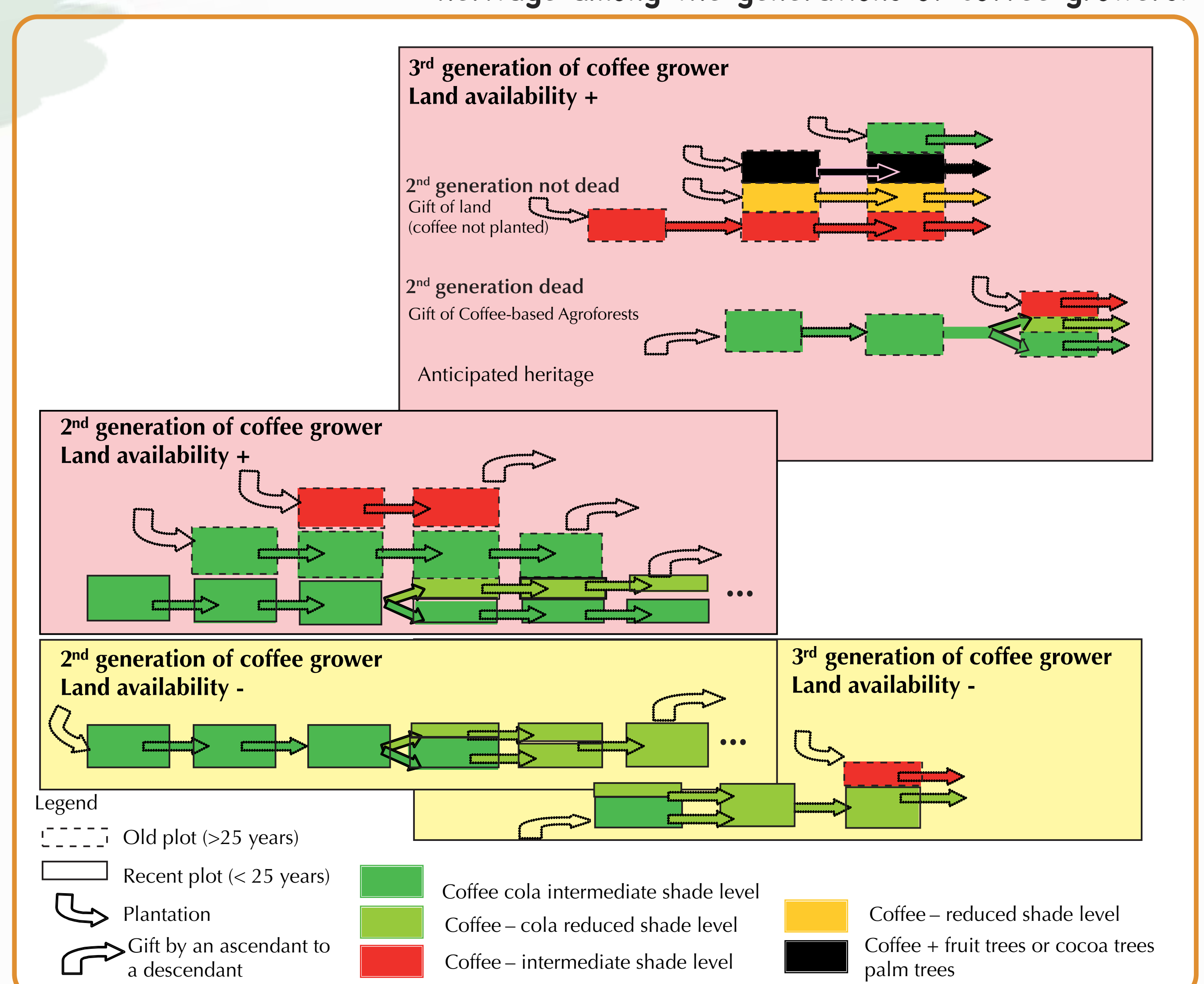
- The villages of Nienh and Boussedou were chosen as socio-economic and agroecological representative villages of the Western part of "Guinée forestière".
- 159 coffee-based agroforests plots were studied to characterize the main dynamics of the vegetation along the coffee-trees development (composition and organization of the vegetation, management of the field, etc).
- Interviews were conducted amongst approximately 35 farmers, chosen with a diversity of age of the farmers (2nd and the 3rd generations of coffee growers in Guinea) and of land availability.

Results

At field level, 4 main trajectories of coffee-based agroforest that maintain coffee yield on the long term thanks to the rejuvenation of coffee-trees.



At farm level, according to the land availability and succession conditions, constitution and transmission of a coffee-based agroforests heritage among the generations of coffee growers.



Conclusion

Without farm inputs or external investment, these systems provide a long-term stable income due to the progressive renewal of coffee trees.

A historical analysis of both farms and agroforests plots showed a high adaptability at the plot level. This may allow for increased diversification at the farm level by modifications of plant community composition and structure as well as by supporting existing cultural techniques. Our historical analysis approach also revealed a high diversity at the coffee farm level; gradual increases over several generations allows for an integration of production and heritage management.

Faced with increasing land pressure, young farmers develop news practices:

- Intensify coffee production by reducing shade in their agroforests or by developing new oil palm plantations.
- Develop of new areas into agroforests, by expanding into the surrounding savannah.

Land pressure in Guinée Forestière could conduct to the transformation of the coffee-based agroforest rather than on their vanishing.

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